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10/823,849	04/13/2004	Yeuk-Fai Edwin Mok	AMAT/8298/CMP/ECP/RKK	5507

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PATTERSON & SHERIDAN, LLP
3040 POST OAK BOULEVARD, SUITE 1500
HOUSTON, TX 77056

EXAMINER	
VU, DAVID	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/823,849
Filing Date: April 13, 2004
Appellant(s): MOK ET AL.

Keith M. Tackett
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 07/31/06 appealing from the Office action mailed 03/03/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-21 and 26-29 are rejected under 35 U. S. C. 102(e) as being anticipated by Yang et al. (US 2004/0016637, herein after Yang).

Regarding claim 1, Yang discloses an annealing system for a semiconductor processing platform, comprising a plurality of isolated annealing chambers 135, each of the isolated annealing chambers comprising: a heating plate 137 positioned in an enclosed processing volume and configured to support a substrate thereon in a substantially face up orientation; a cooling plate 136 positioned in the enclosed processing volume and configured to support a substrate thereon in a substantially face up orientation; and a substrate transfer mechanism 140 positioned in the processing volume and configured to transfer substrates between the heating plate and the cooling plate {See **[0058]**}.

Regarding claim 2, Yang discloses the heating plate comprises a substantially planar upper substrate receiving surface having at least one vacuum chucking aperture formed therein {See [**0067**]}.

Regarding claim 3, Yang discloses the heating plate comprises at least one of a resistive heating element and an inductive heating element positioned in an interior portion of the heating plate below the substrate receiving surface {See [**0067**]}.

Regarding claim 4, Yang discloses the cooling plate comprises a substrate support member having at least one of a liquid cooling channel formed into an interior portion thereof and a thermoelectric cooling device positioned in an interior portion thereof {See [**0062**]}.

Regarding claim 5, Yang discloses the cooling plate comprises at least one vacuum aperture formed into an upper surface thereof {See [**0062**]}.

Regarding claim 6, Yang discloses the substrate transfer mechanism 406 comprises a pivotally actuated robot arm having a distal substrate supporting blade 408 positioned thereon {See [**0062**] and fig. 4}.

Regarding claim 7, Yang discloses the substrate support blade 408 further comprises a plurality of inwardly facing substrate support tabs 410 positioned below a main upper body portion of the support blade, the support tabs being positioned to support the substrate via contact with a backside of the substrate {See [**0062**] and fig. 4}.

Regarding claim 8, Yang discloses the heating plate and the cooling plate 402/404 further comprise a plurality of notches 416 formed into a perimeter thereof, the plurality of notches 416 being configured to receive the plurality of inwardly facing substrate support tabs 410 when the

robot blade 408 is lowered toward the heating and cooling plates 402/404 {See [**0063**] and fig. 4}.

Regarding claim 9, Yang discloses the plurality of isolated annealing chambers further comprise at least 3 stacked annealing chambers, each of the at least three stacked annealing chambers being fluidly separated from each other {See [**0062**] and fig. 3}.

Regarding claim 10, Yang discloses a gas source in fluid communication with an interior volume of each of the annealing chambers, the gas source being configured to supply an inert gas to the processing volumes to maintain the oxygen content below about 100 ppm {See [**0071**]}.

Regarding claim 11, Yang discloses an annealing station for a semiconductor processing system, comprising: a plurality of individual annealing chambers 135, each annealing chamber defining an isolated processing volume; a heating plate 137 positioned in the processing volume; a cooling plate 136 positioned in the processing volume {See [**0058**]}; and a substrate transfer robot 140 positioned to receive a substrate from an externally positioned robot in a face up orientation and position the substrate onto the heating plate and the cooling plate in the face up orientation {See [**0063**] and fig. 4}.

Regarding claim 12, Yang discloses the individual processing volumes are fluidly isolated from each other {See [**0062**] and fig. 3}.

Regarding claim 13, Yang discloses the substrate transfer robot comprises: a pivotally and vertically actuatable arm member; and a blade member attached to a distal end of the arm member, the blade member having a plurality of inwardly extending substrate support tabs

positioned thereon that are configured to engage a backside of a substrate {See **[0063]** and fig. 4}.

Regarding claim 14, Yang discloses the heating plate and the cooling plate further comprise a plurality of vertically oriented channels formed into a perimeter of the plates, wherein the vertically oriented channels are configured to receive the inwardly extending substrate support tabs with the blade is lowered to the plane of the plates {See **[0063]** and fig. 4}.

Regarding claim 15, Yang discloses at least one of the heating plate and the cooling plate comprises a vacuum aperture 422 formed into an upper substrate supporting surface, vacuum aperture being configured to chuck a backside of the substrate to the respective plate {See **[0066]**}.

Regarding claim 16, Yang discloses a fluid channel formed into an outer body portion of each of the plurality of individual annealing chambers, the fluid channel being in fluid communication with a cooling fluid source {See **[0066]**}.

Regarding claim 17, Yang discloses the heating plate is configured to heat a non-production surface of the substrate positioned thereon {See **[0067]**}.

Regarding claim 18, Yang discloses a resistive heating element positioned in an interior portion of the heating plate {See **[0067]**}.

Regarding claim 19, Yang discloses a sealable access door 414 positioned in an outer body portion of the chamber {See **[0070]**}.

Regarding claim 20, Yang discloses a vacuum source individually in communication with each of the processing volumes, the vacuum source being configured to generate a reduced pressure in each of the processing volumes {See **[0066]**}.

Regarding claim 21, Yang discloses a processing gas supply selectively in communication with each of the annealing chambers {See [**0062**]}.

Regarding claim 26, Yang discloses a semiconductor processing platform {See [**0018**] and fig. 1}, comprising: a substrate loading station; at least one substrate plating cell positioned in communication with the loading station; at least one substrate cleaning cell positioned in communication with the loading station; and an annealing station positioned in communication with the loading station, the annealing station comprising a plurality of annealing chambers, each of the annealing chambers comprising: an enclosure forming a sealed processing volume; a heating plate positioned in the sealed ,processing volume of each of the annealing chambers; a cooling plate positioned in the sealed processing volume of each of the annealing chambers; and a substrate transfer mechanism positioned to transfer substrates between the heating plate and the cooling plate.

Regarding claim 27, Yang discloses at least one gas supply source selectively in communication with each of the sealed processing volumes, and adapted to supply a processing gas to each of the sealed processing volumes {See [**0062**]}.

Regarding claim 28, Yang discloses at least one vacuum source individually in communication with each of the sealed processing volumes, the vacuum source being configured to generate a reduced pressure individually in each of the processing volumes {See [**0066**]}.

Regarding claim 29, Yang discloses the plurality of the annealing chambers are positioned in vertically stacked configuration {See [**0062**] and fig. 3}.

(10) Response to Argument

Applicant argues that the priority applications 10/268284 and 60/398345 do not teach the "annealing system" thus these references cannot be relied on for their filling date. Thus applicant argues that the Yang publication (US 2004/0016637) has an entitled filing dated of 7/8/03.

The examiner agrees that the applications stated above do not have the claimed annealing system and thus do not provide prior art dates for the present application.

However, Applicant appears to ignore the other priority applications such as provisional 60/435121 which teaches an annealing chamber system (e.g. see page 8 [**0021**]). Thus provisional application 60/435121 provides a 102(e) filling date of 12/19/02, and the 102(e) rejection based on publication US 2004/0016637 is indeed proper since the subject matter relied on in the rejection is provided by the priority documents.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

David Vu
Primary Examiner
AU 2818

Conferees:

Douglas W. Owens
Primary Examiner
AU 2811

David S. Blum
Primary Examiner
AU 2813

Keith M. Tackett
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd., Suite 1500
Houston, TX 7056

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